

Commonwealth of Kentucky
Division for Air Quality
RESPONSE TO COMMENTS

ON THE TITLE V DRAFT PERMIT V-06-020

CALGON CARBON CORPORATION

CATLETTSBURG, KENTUCKY 41129

June 27, 2006

REVIEWER: JOSHUA J. HIGGINS

Source I.D. #: 21-019-00014

Source A.I.#: 315

Activity #: APE20050001

SOURCE DESCRIPTION:

Calgon Carbon Corporation operates a primary activated carbon and recycle carbon regeneration plant in Catlettsburg, Kentucky. Activated carbon is produced from high-grade bituminous coal. Coal is received and stored in silos, ground to fine powder, mixed with pitch, and pelletized to form a briquette. This briquette is crushed and screened and the carbon is baked to remove volatiles in kilns. After baking the carbon is 'activated' in furnaces. The activated carbon is then cooled and transferred to screening and packaging operations. The plant also produces several specialty products including acid washed carbon, fine carbon, and impregnated carbon products.

Fine carbon is produced using a roll mill and screens while the acid-washed carbon is produced by washing sized carbon with a hydrogen chloride solution. This process removes ash and iron making the carbon suitable for food-grade applications. Residual acid from the process is neutralized with soda ash and the carbon is dried in a direct-fired kiln.

The carbon regeneration plant receives spent carbon from end-users of activated carbon and desorbs the adsorbed materials, thereby regenerating the carbon for reuse. This plant consists of spent carbon storage vessels, washers to remove sand, dewatering steps, and a nine-hearth reactivation furnace. The top two hearths of the furnace serve as an afterburner that discharges into a spray dryer scrubber. Sodium carbonate is used in the spray dryer to remove acidic gases, primarily hydrogen chloride and sulfur dioxide. Final particle collection is performed by a fabric filter.

Calgon operated previously under the following Title V permits: V-00-015 issued August 21, 2000; V-00-015, Revision 1 issued July 10, 2003; and V-00-015, Revision 2 issued March 1, 2004.

PUBLIC AND U.S. EPA REVIEW:

On April 29, 2006, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Independent* in Ashland, Kentucky. The public comment period expired 30 days from the date of publication.

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Comments were received from Calgon Carbon Corporation. Attachment A to this document lists the comments received and the Division's response to each comment. Minor changes were made to the permit as a result of the comments received, however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed. Please see Attachment A for a detailed explanation of the changes made to the permit. The U.S. EPA has 45 days to comment on this proposed permit.

ATTACHMENT A

Response to Comments

Comments on Calgon Carbon Corporation's Draft Title V Air Quality Renewal Permit submitted by Ms. Jan Kountz, Environmental Coordinator, Calgon Carbon Corporation.

Comment #1:

EP 08 (A-10) A-Line Packaging Operations	The correct baghouse model is Dynaclone No. 12, Type A. Pressure drop through the baghouse is typically expressed in whole numbers and range from 1 to 5 in. H ₂ O
EP 15 (B-06) B-Line Packaging Operations	
EP 22 (C-06) C-Line Packaging Operations	
EP 50 (A-15) Pulverizer Collection System	

Division's Response: Numerous inconsistencies regarding control device descriptions and operating parameters were discovered between the original Title V application, the original Title V permit, and the August 8, 2005 NOD response submitted as a part of the Title V renewal application. As a result, the Division resorted to the information included in the original Title V application while drafting the renewal Title V permit. However, since the Division asked Calgon to verify and comment on their control device operating parameters, the model number and standard pressure drop range has been updated as requested in the table above. The acceptable range of pressure drop across the baghouses will be verified during testing that is required on similar processes using similar control devices.

Comment #2:

EP 09 (B-01) B-Line Coal & Pitch Preparation Area	Pressure drop through the baghouse is typically expressed in whole numbers and range from 1 to 5 in. H ₂ O.
EP 25 (M-03) Acid Wash Transfer & Packaging System	
EP 26 (M-04) Acid Wash Process	
EP 29 (D-04) D-Line Coal & Pitch Preparation Area	
EP 43 (E-07) E-Line Packaging Operations	
EP 44 (M-06) D & E Bulk Loadout System	
EP 52 (F-01) Activated Carbon Fine Mesh Production	

Division's Response: See the response to Comment #1, above. However, the standard pressure drop range has been updated. The acceptable range of pressure drop across the baghouses will be verified during testing that is required on similar processes using similar control devices.

Comment #3: EP 31 (D-05) Two (2) D-Line Bakers – Annual throughput operating limit should increase to 80,942 TPY to be consistent with the current hourly operating limit. Calculations attached show PM/PM₁₀ and SO₂ emissions will be well below the permitted hourly limits. Also note the D-Line Bakers scrubber was replaced in 1997 with a more efficient model with a typical 250 gpm liquid flow.

Division's Response: The Division disagrees that increasing the annual throughput limit should be done for consistency's sake. This is because the Section 502(b)(10) Change notification (i.e.: Log # 56097 processed with issuance of V-00-015, Revision 2) that increased the hourly rate from 7.8 tons per hour to 9.24 tons per hour specifically indicated that there would not be an increase in the annual throughput limit of 68,328 tons per year. Therefore, the current 9.24 tons per hour and 68,328 tons during any consecutive 12 months limits are consistent with all applications and change notifications on file. Additionally, the Division feels that it would be more appropriate to wait until after the required testing is conducted on this unit in order to allow use of the latest testing data in order to verify and calculate emissions.

If it is the permittee's desire to revise the annual throughput limit, and since sources shall not modify without a permit or permit revision except as provided in the regulations [401 KAR 52:020, Section 3(1)(a)] the Division feels that submittal of a revision application or change notification from 401 KAR 52:020, Section 13 – 18, as applicable, is required in order to execute the change.

See the response to Comment #1, above. However, the scrubber liquid flow rate has been revised to 250 gallons-per-minute, as requested. The minimum liquid flow rate through the scrubber will be verified during testing that is required on this unit.

Comment #4: EP 34 (D-08, 09) D-Line Activator Furnaces #7 & #8 – The scrubbers associated with D-Line Activator Furnaces #7 & #8 operate at minimums of 6 in. H₂O pressure drop and 350 gpm liquid flow. [401 KAR 53:005, and Permit V-00-015 (Revision 2)].

Division's Response: See the response to Comment #1, above. However, the minimum pressure drop and liquid flow rate has been revised as requested. The minimum scrubber operating parameters will be verified during testing that is required on this unit.

Comment #5: EP 35 (D-10) D-Line Packaging Operations - The correct baghouse model is Dynaclone No. 11, Type A. Pressure drop through the baghouse is typically expressed in whole numbers and range from 1 to 5 in. H₂O.

Division's Response: See the response to Comment #1, above. However, the model number and standard pressure drop range has been updated. The acceptable range of pressure drop across the baghouse will be verified during testing that is required on similar processes using similar control devices.

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Comment #6: EP 37 (E-01) E-Line Coal and Pitch Preparation Area - Annual throughput operating limit should increase to 78,840 TPY to be consistent with hourly the current operating limit. Calculations attached show PM/PM₁₀ and SO₂ emissions will be well below the permitted hourly limits. Pressure drop through the baghouse is typically expressed in whole numbers and range from 1 to 5 in. H₂O.

Division's Response: The annual operating limit will not be revised at this time. Since sources shall not modify without a permit or permit revision except as provided in the regulations [401 KAR 52:020, Section 3(1)(a)], the Division feels that it would be more appropriate to revise this existing permit term through submittal of a specific revision application or change notification from 401 KAR 52:020, Section 13 – 18, as applicable, instead of through comments. Additionally, the Division feels that it would be more appropriate to wait until after the required testing is conducted on this unit in order to allow use of the latest testing data in order to verify and calculate emissions. Finally, a separate submittal regarding this modification would provide for better historical tracking of when, why, and how the limit was revised.

See the response to Comment #1, above. However, the standard pressure drop range has been updated. The acceptable range of pressure drop across the baghouse will be verified during testing that is required on this unit.

Comment #7: EP 39 (E-02) Two (2) E-Line Bakers - The E-Line Bakers scrubber was manufactured by D. R. Technology. The minimum liquid flow is 100 gpm in Permit V-00-015 (Revision 2) and met the requirements of 401 KAR 53:005. The typical scrubber liquid flow rates is 250 gpm or higher.

Division's Response: See the response to Comment #1, above. However, the minimum liquid flow rate has been revised as requested. The minimum scrubber operating parameters will be verified during testing that is required on similar processes using similar control devices.

Comment #8: EP 42 (E-05, 06) E-Line Activator Furnaces #9 & #10 - The E-Line Activator Furnaces scrubbers were manufactured by D. R. Technology. The scrubbers associated with D-Line Activator Furnaces #7 & #8 operate at minimums of 6 in. H₂O pressure drop and 350 gpm liquid flow. [401 KAR 53:005, and Permit V-00-015 (Revision 2)].

Division's Response: See the response to Comment #1, above. However, the minimum pressure drop and liquid flow rate has been revised as requested. The minimum scrubber operating parameters will be verified during testing that is required on similar processes using similar control devices.

Comment #9: EP 45 (CAS-01) Reactivation Furnace - Pressure drop through the baghouse is typically expressed in whole numbers and range from 4 to 12 in. H₂O. Please change Specific Monitoring Requirements Condition (e) to read "Canisters shall be changed out quarterly to assure compliance, or the permittee shall analyze the samples for determination of the Apparent

Density. Replacement of the carbon shall be required when: [40 CFR 61.354 (d)]

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- (1) the measured Apparent Density exceeds 0.7, or
- (2) on an annual basis, whichever occurs first.”

Division’s Response: See the response to Comment #1, above. However, the standard pressure drop range has been updated. The acceptable range of pressure drop across the baghouse will be verified during testing that is required on this unit.

*The requested Specific Monitoring Requirement revision is an alternate to monitoring required by a federal regulation. Fortunately, according to 40 CFR 61.358(a) and (b), the only authority pertaining to 40 CFR 61 Subpart FF retained by the Administrator is “Alternative means of emission limitation under §61.353....” [40 CFR 61.358(b)] Therefore, the Division has the authority to approve the permittee’s requested alternate monitoring. The alternate is no less stringent than the existing monitoring requirement, and, therefore, is not considered a significant revision to an existing monitoring requirement. **Specific Monitoring Requirement 4.e.** for EP 45 was revised to read as follows:*

e. For the carbon adsorbers, comply with either of the following:

- (1) *The permittee shall obtain samples of the carbon in the adsorption units on a quarterly basis and shall analyze the samples for determination of the Apparent Density. Replacement of the carbon shall be required when: [40 CFR 61.354 (d)]*
 - (i) *the measured Apparent Density exceeds 0.7, or*
 - (ii) *on an annual basis, whichever occurs first.*
- (2) *Replace the carbon in the adsorption units on a quarterly basis. [401 KAR 52:020, Section 10; Permit V-06-020; and source comments]*

Comment #10: EP 51 (C-09) A, B, C & Acid Wash Fines Packaging System – The correct baghouse manufacturer is Koppers Co., Sprout Waldron Div. Pressure drop through the baghouse is typically expressed in whole numbers and range from 1 to 5 in. H₂O.

Division’s Response: See the response to Comment #1, above. However, the model number and standard pressure drop range has been updated. The acceptable range of pressure drop across the baghouse will be verified during testing that is required on similar processes using similar control devices.

Comment #11: EP 53 (CAS-09) Reactivation Process for Custom Product – Pressure drop through the baghouse is typically expressed in whole numbers and range from 1 to 5 in. H₂O. The POC worksheet and emission point summary are not consistent with the range specified in the Specific Monitoring Requirements:

Division’s Response: See the response to Comment #1, above. However, the standard pressure drop range has been updated. The acceptable range of pressure drop across the baghouse will be verified during testing that is required on similar processes using similar control devices.

Comment #12: EP 72 (--) D & E Pneumatic Fines Conveyor System – Pressure drop through the baghouse is typically expressed in whole numbers and range from 4 to 12 in. H₂O.

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Division's Response: Although the pressure drop range identified above is different than the range indicated in the construction application for this point, the standard pressure drop range has been updated. The acceptable range of pressure drop across the baghouse will be verified during testing that is required as a result of new construction on this unit.